

REMARKS

Claims 1-21 are currently pending in the application. No new matter has been added.

The claimed invention provides, *inter alia*, for the broadcast of comments, by a speaker participating in a teleconference via communication satellite 11, to conference call participants' subscriber terminals 15 capable of receiving satellite communication signals. According to the claimed invention, a satellite communication conference center 13 connected to a satellite earth station 12 for satellite communication with the communication satellite 11 includes a ground communication back channel for receiving a voice request signal from conference call participants in the conference and a comment signal of a participant which is given a turn to speak, and so that a ground communication network 17 may be employed to enable conference participants to communicate without access to a satellite earth station 12. Thus, participants may communicate with the conference chairperson 16 by way of the ground communication network 17 or communication satellite 11.

The conference center 13 may include a satellite communication network connecting circuit 31 for receiving a signal from the satellite earth station 12, a ground communication connecting circuit 32 for connection of reception/transmission through a ground communication network such as a telephone, facsimile, or email, a chairperson unit 33, and a data transmitting unit 34 for reading information from the chairperson unit 33, generating it on a broadcast format, and transmitting it to the satellite earth station 12. The chairperson unit 33 may thus accept a voice request signal which is issued from a participant in the conference through the communication satellite or ground communication network, determines the participant to whom a voice is granted, and generates a voice grant signal for broadcasting the above determination through the communication satellite. The chairperson unit 33 may then produce a comment broadcast signal for broadcasting the comment signal from the participant to whom the voice is granted via the communication satellite.

The Examiner rejected Claims 1-2, 4-12, and 16 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,930,473 to Teng et al. In addition, the Examiner rejected Claims 3, 14-15, and 17-18 as unpatentable over Teng et al. in view of U.S. Patent No. 6,289,377 to Lalwaney et al. Finally, the Examiner rejected Claim 13 as unpatentable over Teng et al. in view of U.S. Patent No. 6,330,671 to Aziz and also rejected Claims "18-21" (apparently a typographical error intended to refer to Claims 19-21) as unpatentable over Teng et al. in view of Lalwaney et al. and further in view of Aziz.

The satellite conference system and method of the claimed invention is much simpler, safer and more practical than the inventions disclosed by the cited references, and the intended application of the claimed invention is very specific.

The system and method of the claimed invention utilizes direct satellite broadcast ("DSB"), which is an established mass market satellite communication system with a great many users and very economical user equipment. The DSB feature of advanced scheduling is fully utilized by the claimed invention to ease the burden of registration and cipher key distribution processing. The system and method of the claimed invention is simpler and safer than the inventions disclosed by the cited references. While the claimed invention deals specifically with a satellite conference involving a predetermined group of participants, the references deal with general video streaming services in multicast for general users on the Internet. The references therefore must deal with more difficult tasks because of the more generalized nature of the problems they address. The application of the claimed invention is clearly defined for a specific service, that of a satellite conference service for a group or people held at a scheduled time. This specification makes the system simpler and safer and yet general enough to be used for wide varieties of applications teleconferences, seminars, education and entertainments.

Applicant thus respectfully traverses the rejection of Claims 1-21, as discussed more fully below.

Claims 1-2, 4-12, and 16

The Examiner has rejected Claims 1-2, 4-12, and 16 under 35 U.S.C. § 102(b) as anticipated by Teng et al., which teaches and claims a video application server for mediating live video services. According to the disclosure of Teng et al., there is a video server connected to transmission media, which may include satellite television, to broadcast a signal from multiple live or previously-stored video streams. (Teng et al., column 6, lines 37-56; Teng et al., Claim 5) Video teleconferencing is taught as a potential application. (Teng et al., column 1, line 62)

The technology disclosed by Teng et al. is completely different from the claims of the claimed invention in the structure of the system, technology and the fields of use.

With regard to the role of satellite communication networks, major differences between the invention disclosed by Teng et al. and the claimed invention include the weight and roles of satellite communications. In the claimed invention, the satellite network is essential while in Teng et al. satellite is just one of many types of networks that may be employed, such as LAN, WAN, FSTN, etc. In Teng et al., the satellite communication is considered only as a means for broadcasting video streams as it is impossible in the terrestrial networks.

While the structure of the system claimed by the claimed invention is highly centralized around a satellite network, which is directly connected with the conference center and the chairperson, the structure of the system disclosed by Teng et al. is inherently distributed, with information sources widely distributed over multiple networks. This is apparent from Figure 1 of the disclosure of Teng et al., in which the video server 12 is required to coordinate exchanges of “live video services” among “presenter clients” and “viewer clients” distributed over different networks. The function of said video server 12 may be also distributed over different networks. (Teng et al., column 8, lines 7-10). Such distributed server functionality is essentially impossible in the claimed invention, as chairperson functions cannot be shared by multiple persons or equipment distributed over different networks. There are also differences in application between the invention disclosed by Teng et al. and the

claimed invention. Technical differences between Teng. and the claimed invention include differences in the fields in which the inventions are to be applied. The objective of Teng et al. is distribution of video signals over different networks, but the objective of the claimed invention is to provide a teleconference through a satellite communication or broadcast network.

Claim 1. According to Claim 1, *comments of a speaker participating in a conference* are broadcasted, while in Teng et al. it is *live and previously stored video to and from other networks* which are broadcasted (Teng et al., column 6 lines 38-40). The nature of the signals transmitted through the satellite is completely different.

Claim 2. According to Claim 2, the *conference center is connected to a satellite earth station*, thus clearly defining the central role of the conference center and the satellite network in the claimed invention. In Teng et al., on the other hand, the role of the satellite network is not central but ancillary, as is clear from the fact that the server 12 of Teng et al. *may also mediate* video transmission via satellite *using suitable arranged transceivers* (Teng et al., column 5, lines 52-54.). Figure 1 of Teng et al. also shows that the video server 12 is not directly connected with the transceiver 20 but is instead connected through LAN switch 13 and client 14-5.

Claim 4. Teng et al. do not disclose Claim 4 of the claimed invention, which is evident because of the differences between the highly centralized structure of the claimed invention and highly distributed structure of the invention disclosed by Teng et al. According to the disclosure of Teng et al., satellite communication is not mentioned as the “network.” (Teng et al., column 5, lines 12-29) Furthermore, the video server simply relays “an authorization request” from one or more of the viewer clients to the source client. It is the source client that issues “an authorization command” which enables transmission of video signal from the viewer client that has made the request. By comparison to the claimed invention, the conference center and chairing function is on the source clients which are widely distributed over wide area networks.

Claim 5. Claim 5 should be read in context of the feature of the satellite communication network which can be of bidirectional mesh network and

one-directional star network as in satellite broadcasting. The use of the existing direct satellite broadcast network is the main feature of the claimed invention because of the apparent advantages described in the Specification at pages 20-21. The ground network serves as a communication back channel to supplement the the DSB network as claimed herein.

Claim 6. The disclosure of Teng et al. does not teach Claim 6 of the claimed invention. In the system taught by Teng et al. the current presenter allows the next presenter to broadcast on the network and sends a command signal to the requesting viewer client. (Teng et al., column 12, lines 39-46) In Claim 6 of the claimed invention, it is the chairperson that designates the next speaker and lets the next speaker broadcast “the voice grant signal via said communication satellites.” Thus, the description of the claimed invention is specific to satellite-based teleconferences while that of the disclosure of Teng et al. is generalized for all networks. The broadcasting of the voice grant signal according to Claim 6 enables every participant to know who the next speaker is, which is more natural for a conference.

Claim 7. The disclosure of Teng et al. describes the structure of digital video control software (Teng et al., column 19, lines 41-56) and does not disclose the functions of Claim 7 of the claimed invention. The disclosure of Teng et al. also describes two kinds of information processing, one for video redirection and the other for data file request. Since those processing functions are particularized to video services, it is clear that the invention disclosed by Teng et al. is of a different nature than the claimed invention.

Claims 8 and 9. There are various differences between the invention disclosed by Teng et al. and Claims 8 and 9 of the claimed invention. First, the presenter at all times controls the exchange of audio signals among the viewer clients according to the invention disclosed by Teng et al., while Claims 8 and 9 of the claimed invention provides for the chairperson to preside over and control the conference. The chairperson also exclusively controls which participant is to be granted the right to speak. The chairperson accepts requests by participants to make comments only in the comment accepting state established after a previous speaker has finished speaking.

This is a more natural procedure for a conference. Furthermore, because the chairperson does not have to be a presenter, the claimed invention is applicable to more general conferences.

Claims 10 and 11. Claims 10 and 11 of the claimed invention make certain provisions for automatic control which are not contemplated by Teng et al. With regard to Claim 10, the disclosure of Teng et al. does not set forth the structure or principle of an automatic control of information exchanges among presenters or viewer clients. (Teng et al., column 13, lines 37-42) With regard to Claim 11, the disclosure of Teng et al. does not show any automatic configuration or operation principle of the controller. (Teng et al., column 12, lines 57-67) Such expressions as “If the presenter subsequently decides to terminate the broadcasting privilege,” show the control will be made by people, not by an automatic machine.

Claim 12. The portion of the disclosure of Teng et al. cited by the Examiner in support of rejection is not relevant to Claim 12 of the claimed invention, in part because the cited portion of Teng et al. relates to participant-controlled conferencing, as discussed in collection with Claims 8-9 and 10-11, above, while the claimed invention does not provide for participant control, but is instead chairperson-controlled.

Claims 14, 15, and 16. The network structure in the disclosure of Teng et al. includes everything, LAN, WAN and PSTN as well as a satellite network. Therefore any network structure will have some common elements with the network described in Teng et al. As stated previously in the general comments, the essence of the claimed invention is in the role of satellite network. Thus, while the satellite network is marginal in Teng et al., a satellite network is essential in the claimed invention.

Claims 3, 14-15

The Examiner found Claims 3, 14-15, and 17-18 to be unpatentable over Teng et al. in view of U.S. Patent No. 6,289,377 to Lalwaney et al., according to which which systems with one-way adapters, including “cable modems, wireless modems, and satellite modems” (Lalwaney et al, column 3, lines 64-64) may be configured to allow a personal computer to receive data using a first communication path (such as

cable television, broadcast television, or satellite television) while transmitting data using a second communication path (such as a telephone line).

Any communication networks have elements in common in network structure and operation principles, but innovations lie in the realization of new useful functions resulting from new combinations of existing elements. Thus, essential differences between the claimed invention and the cited references lie in the different functions accomplished by the systems as a whole, as described below.

The technology disclosed by Lalwaney et al. concerns how to integrate the access to the Internet through two different networks, i.e. ISP phone network and MSO/cable operators network. (Lalwaney et al., Figure 1). In the claimed invention, the problems to be solved by Lalwaney et al. do not arise because communication takes place only between the conference center and the participants. No access to general information sources in the Internet is required. As a result, the technology disclosed by Lalwaney et al. is irrelevant to the claimed invention, as the problems to be solved by Lalwaney et al. do not exist in the claimed invention.

Claim 13, 18-21

The Examiner found Claim 13 to be unpatentable over Teng et al. in view of U.S. Patent No. 6,330,671 to Aziz and Claims “18-21” (which appears to be a typographical error intended to refer to Claims 19-21) to be unpatentable over Teng et al. in view of Lalwaney et al. and further in view of Aziz. Claims 13 and 19-21 involve the use of cipher and decipher keys in connection with the claimed invention, while the invention disclosed by Aziz provides a method and system for secure distribution of cryptographic keys on multicast networks.

The same logic applied to the rejection of Claims 3, 14-15, and 17-18 is applicable to the rejection of Claims 13 and 18-21. The irrelevance of the disclosure of Lalwaney et al. to the claimed invention has been already clarified. The irrelevance of the invention disclosed by Aziz is discussed in the following paragraphs.

The problem addressed by Aziz is that “[u]nfortunately, existing key management techniques often use a single server, sometimes referred to as a group coordinator or GC, to distribute the traffic keys or key encrypting keys associated with

multicast transmission. The GC maintains secure key distribution but can be overwhelmed if the requests are too frequent or too numerous.” (Aziz, column 2, lines 40-45)

The system disclosed by Aziz solves the above problem through distributed “seeds” key distribution methods.

As noted above, the claimed invention concerns a satellite conference system with a highly centralized structure around the conference center which connects the satellite broadcasting network with the back-way network including satellite and terrestrial networks. In terms of encryption the conference center in the claimed invention plays the part of GC in the disclosure of Aziz. That is, the encryption system structure of the claimed invention is nothing but the GC whose problem Aziz tries to solve. Therefore it is apparent that the technology disclosed in Aziz is irrelevant to the claimed invention.

The major objective of claimed invention is to establish a new satellite conference system based on DSB infrastructure, which has been already established as a mass market with a large number of receivers and very economical receiver equipment. This intention is clear from Figures 3 and 4 of the Specification, showing TV sets.

In DSB, it is self-evident that programs are scheduled well in advance of actual broadcasting. In the claimed invention, the satellite conferences are scheduled well in advance of the actual transactions, hence sufficient time is available for registration of the participants and distribution of decipher keys. (Claim 12, lines 1-6; Claim 19, lines 1-20; and Claim 21, lines 1-5) Such a procedure may secure distribution of the decipher key of the broadcast signal. The decipher key is distributed to each participant in a secure way by ciphering it specifically for each participant. The key ciphering key is commonly understood only between the conference center and each participant through advance registration and exchange or the attendance notifying signal and acceptance confirming signal.



Conclusion

In view of the foregoing, Applicant submits that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed.

Applicant hereby makes a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041 (Whitham, Curtis & Christofferson).

Respectfully submitted,



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